



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

**OFFICE OF THE
REGIONAL ADMINISTRATOR**

By email only

Oliver Whaley
Executive Director, Navajo Nation Division of Natural Resources
Navajo Nation Environmental Protection Agency
P. O. Box 339
Window Rock, Arizona 865515

Subject: Navajo Nation 2015 Surface Water Quality Standards and 2015 Triennial Review

Dear Director Whaley:

I am pleased to partially approve the new and revised Subject water quality standards consistent with the requirements of section 303(c) of the Clean Water Act (CWA) and 40 C.F.R. Part 131. Supported by robust science and stakeholder engagement, the approved standards include updates to designated uses, definitions, numeric nutrient criteria, and expanded antidegradation and site-specific standard policies. I am also disapproving certain water quality standards as described below.

Incorporated as part of this letter are Enclosure A (Table of Approved Standards) and Enclosure B (EPA's detailed analysis of the standards and rationale for approval and disapproval). The approved standards take effect immediately for CWA purposes.

Approved New and/or Revised Standards

EPA approves the new and revised water quality standards in Enclosure A. The submitted Provisions also included revisions to formatting, definitions, and errors that are non-substantive and are neither new nor revised water quality standards and are therefore not subject to EPA review and approval.

Disapproved New and/or Revised Standards

EPA is disapproving the following submitted Provisions as they are not consistent with the CWA and implementing regulations: 1) acute and chronic cadmium criteria for aquatic and wildlife warm water; and 2) bis(2-ethylhexyl)phthalate criteria for primary human contact. With this disapproval, pursuant to 40 C.F.R. § 131.21(e), Navajo Nation's previously approved criterion for these provisions remain the applicable water quality standards for CWA purposes.

Request for Additional Information

EPA is not acting on the submitted provision to remove the suspended solids criteria for aquatic life uses in non-flowing waters. Instead, EPA is offering NNEPA the opportunity to submit additional information that provides a scientific basis for this removal or establishes how, in the absence of the criteria, NN WQS can protect the designated uses from impacts from suspended solids. EPA will

continue to work closely with Navajo Nation to meet your water quality management goals related to this provision.

I look forward to our continued partnership to protect and enhance Navajo Nation's water quality and advance human health and wildlife protection. Please call me if you would like to discuss further, or your staff may contact Tina Yin, Manager of the Standards and Assessment Office at (415) 972-3579, with specific questions.

Sincerely,

JOHN
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JOHN BUSTERUD
Digitally signed by
Date: 2020.10.05
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John W. Busterud
Regional Administrator

Enclosures

cc: Ronnie Ben, Navajo Nation EPA

Enclosure A

Table of Approved Standards

§ 104 Definitions	Summary
Assimilative Capacity	Added new definition “the difference between the baseline water quality concentration of a pollutant and the most stringent applicable water quality criterion for that pollutant.”
Chronic Standard	Updates definition to “a standard that applies to the geometric mean of the analytical results of the last four samples taken at least 24 hours apart arithmetic mean of samples collected during four consecutive days; chronic standards shall not be exceeded more than once every three years.”
Exceptional Waters of the Navajo Nation	Changes Unique Waters to “Exceptional Waters of the Navajo Nation” defined as: “ground or surface waters that have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness characteristics.”
Ephemeral Surface Water	Updates the definition to “a flowing or non-flowing surface water that has a stream bed, lake bed, or pond bed that is at all times above the water table and water above the bed is only present in direct response to precipitation.”
Hardness	Updates the definition to “the sum of the calcium and magnesium concentrations, expressed as calcium carbonate (CaCO ₃), in milligrams per liter (mg/L) and may be calculated using the following formula: Hardness (as CaCO ₃) = 2.5 × Ca ²⁺ (mg/L) + 4.1 × Mg ²⁺ (mg/L). Hardness analysis is done from a dissolved water sample.”
Intermittent Surface Water	Updates the definition to “a flowing or non-flowing surface water with water above the stream bed, pond bed, or lake bed only at certain times of the year, receiving water from springs or surface sources; also, a watercourse that does not flow continuously, when water losses from evaporation or seepage exceed available stream flow.”
Pollution	Updates the definition to “any man-human-made or man human-induced alteration of the chemical, physical, biological, or radiological integrity of waters of the Navajo Nation.”
Unique Waters	Remove and replace with Exceptional Waters of the Navajo Nation
§ 201 Antidegradation Policy	Summary
Subsection D	Removes definition of Unique Waters, replaced by subsection I
Subsection F	Updates degradation definition to specify by pollutant
Subsection G	Creates and define Tier 1 status and protection
Subsection H	Creates and define Tier 2 status and protection

Subsection I	Creates and defines Tier 3 status and protection under Exceptional Waters of the Navajo Nation
§ 202 Antidegradation Implementation	Summary
	Add new section regarding antidegradation implementation procedures; new to WQS
§ 207 Numeric SWQS	Summary
Subsection D	Updates the Salinity standards to conform with the 2014 Colorado River Basin Salinity Control Forum criteria.
Subsection I	Adds mercury and methylmercury aquatic life chronic exposure standards for a list of 25 plus waterbodies.
§ 209 Exceptional Waters of the Navajo Nation	Summary
	This new section changes previously termed unique waters to “Exceptional Waters of Navajo Nation” (EWNN). Subsections then provide nomination and decision conditions to recognize and designate a waterbody as an EWNN.
§ 212 Site Specific Standards	Summary
	This section and subsections establish the capacity for site specific standard and sets forward types of processes and conditions required to calculate these kinds of criteria.
§ 213 Natural Background	Summary
	This section establishes conditions in which natural background can be considered for assessment purposes.
Table 206.1	Summary
Designated Uses	Updates to universal designated uses ephemeral reaches and perennial and/or intermittent reaches of all named waters of Navajo Nation. Please see the below tables:

Existing Designated Uses Removed			
Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Nazlini Wash, ephemeral reaches	Chinle	PrHC, AgWS, FC	2
Arroyo Chico and tributaries, ephemeral reaches	Arroyo Chico	PrHC, FC	2
Blanco Canyon, ephemeral reaches	Blanco Canyon	PrHC, FC	2

Existing Designated Uses Removed

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Largo Canyon, ephemeral reaches	Blanco Canyon	PrHC, FC	2
Canyon Diablo, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Padre Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
San Francisco Wash, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Yellow Jacket Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Youngs Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Brimhall Wash, ephemeral reaches	Chaco	PrHC, FC	2
Captain Tom Wash, ephemeral reaches	Chaco	PrHC, FC	2
Chaco River/Chaco Wash, ephemeral reaches	Chaco	PrHC, FC	2
Chinde Wash, , ephemeral reaches	Chaco	PrHC, FC	2
Cottonwood Arroyo, ephemeral reaches	Chaco	PrHC, FC	2
Coyote Wash, ephemeral reaches	Chaco	PrHC, FC	2
De Na Zin Wash, ephemeral reaches	Chaco	PrHC, FC	2
Dead Man's Wash, ephemeral reaches	Chaco	PrHC, FC	2
Hunter Wash, ephemeral reaches	Chaco	PrHC, FC	2
Indian Creek, ephemeral reaches	Chaco	PrHC, FC	2
Red Willow Wash, ephemeral reaches	Chaco	PrHC, FC	2
Sanostee Wash, ephemeral reaches	Chaco	PrHC, FC	2
Sheep Springs Wash, ephemeral reaches	Chaco	PrHC, FC	2
Tocito Wash, ephemeral reaches	Chaco	PrHC, FC	2
Balakai Wash, ephemeral reaches	Chinle	PrHC, FC	2
Black Mountain Wash, ephemeral reaches	Chinle	PrHC, FC	2
Canyon de Chelly Wash, ephemeral reaches	Chinle	PrHC, FC	2
Canyon del Muerto Wash, ephemeral reaches	Chinle	PrHC, FC	2
Chinle Creek/Chinle Wash, ephemeral reaches	Chinle	PrHC, FC	2
Cottonwood Wash, ephemeral reaches	Chinle	PrHC, FC	2
Coyote Wash, ephemeral reaches	Chinle	PrHC, FC	2
Crystal Creek, ephemeral reaches	Chinle	PrHC, FC	2
Laguna Creek, ephemeral reaches	Chinle	PrHC, FC	2
Little Whiskey Creek, ephemeral reaches	Chinle	PrHC, FC	2
Lukachukai Wash, ephemeral reaches	Chinle	PrHC, FC	2
McElmo Creek, ephemeral reaches	Chinle	PrHC, FC	2
Montezuma Creek, ephemeral reaches	Chinle	PrHC, FC	2
Palisade Creek, ephemeral reaches	Chinle	PrHC, FC	2
Tohtso Creek, ephemeral reaches	Chinle	PrHC, FC	2
Tsaile Creek, ephemeral reaches	Chinle	PrHC, FC	2
Tyende Creek, ephemeral reaches	Chinle	PrHC, FC	2
Walker Creek, ephemeral reaches	Chinle	PrHC, FC	2
Wheatfields Creek, ephemeral reaches	Chinle	PrHC, FC	2
Whiskey Creek, ephemeral reaches	Chinle	PrHC, FC	2
Corn Creek Wash, ephemeral reaches	Corn-Oraibi	PrHC, FC	2
Oraibi Wash, ephemeral reaches	Corn-Oraibi	PrHC, FC	2
Cottonwood Wash, ephemeral reaches	Cottonwood Wash	PrHC, FC	2

Existing Designated Uses Removed

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Kinlichee Creek , ephemeral reaches	Cottonwood Wash	PrHC, FC	2
Pueblo Colorado Wash, ephemeral reaches	Cottonwood Wash	PrHC, FC	2
Dinnebito Wash, ephemeral reaches	Dinnebito Wash	PrHC, FC	2
East Fork Dinnebito Wash, ephemeral reaches	Dinnebito Wash	PrHC, FC	2
Jeddito Wash, ephemeral reaches	Jeddito Wash	PrHC, FC	2
Leroux Wash, ephemeral reaches	Leroux Wash	PrHC, FC	2
Shinumo Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tanner Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tatahatso Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tiger Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Antelope Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Aztec Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Kaibito Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Navajo Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Cedar Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Deadman Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Lee Canyon, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Little Colorado River, ephemeral reaches	Lower Little Colorado	Dom. PrHC, FC	2
Tappan Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Desert Creek, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	PrHC, FC	2
Gothic Creek, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
McCraken Canyon, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Teec Nos Pos Wash, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Toh Dahstini Wash ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Gypsum Creek, , ephemeral reaches	Lower San Juan River	PrHC, FC	2
Nokai Canyon, ephemeral reaches	Lower San Juan River	PrHC, FC	2
Oljeto Wash, ephemeral reaches	Lower San Juan River	PrHC, FC	2
Mancos River, ephemeral reaches	Mancos River	PrHC, FC	2
Baker Arroyo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Cove Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Eagle Nest Arroyo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Ojo Amarillo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Pine Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Red Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Salt Creek Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Standing Redrock Creek, ephemeral reaches	Middle San Juan River	PrHC, FC	2

Existing Designated Uses Removed

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Begashibito Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Hamblin Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Moenkopi Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Shonto Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Unnamed ephemeral tributaries and playas	North Plains	PrHC, FC	2
Polacca Wash, ephemeral reaches	Polacca Wash	PrHC, FC	2
Rio Puerco and tributaries, ephemeral reaches	Rio Puerco	PrHC, FC	2
Alamo Creek, ephemeral reaches	Rio Salado	PrHC, FC	2
Rio Salado and tributaries, ephemeral reaches	Rio Salado	PrHC, FC	2
Bluewater Creek, ephemeral reaches	Rio San Jose	PrHC, FC	2
Rio San Jose ephemeral tributaries	Rio San Jose	PrHC, FC	2
Asaayi Creek - East Fork, ephemeral reaches	Upper Puerco	PrHC, FC	2
Asaayi Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Black Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Bonito Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Tohdildonih Wash, ephemeral reaches	Upper Puerco	PrHC, FC	2
Puerco River, ephemeral reaches	Upper Puerco & Lower Puerco	Dom, PrHC, FC	2
Gallegos Canyon, ephemeral reaches	Upper San Juan River	PrHC, FC	2
Rio Pescado, ephemeral reaches	Zuni River	PrHC, FC	2
Zuni River tributaries, ephemeral reaches	Zuni River	PrHC, FC	2

New Uses Added to Waterbodies

Waterbody	Cataloging Unit	New Uses
Arroyo Chico and tributaries perennial and intermittent reaches	Arroyo Chico	PrHC, AgWS
Torreon Wash, perennial and intermittent reaches	Arroyo Chico	PrHC, AgWS
Blanco Canyon, perennial and intermittent reaches	Blanco Canyon	PrHC, AgWS
Largo Canyon, perennial and intermittent reaches	Blanco Canyon	PrHC, AgWS
Canyon Diablo, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Padre Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Yellow Jacket Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Youngs Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Brimhall Wash, perennial and intermittent reaches	Chaco	PrHC,
Chinde Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Cottonwood Arroyo, perennial and intermittent reaches	Chaco	PrHC, AgWS
Coyote Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
De Na Zin Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Dead Man's Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Hunter Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS

New Uses Added to Waterbodies		
Waterbody	Cataloging Unit	New Uses
Indian Creek, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
Red Willow Wash, perennial and intermittent reaches	Chaco	PrHC,
Sheep Springs Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
Tocito Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Balakai Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Black Mountain Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Cottonwood Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Coyote Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Lukachukai Wash, reaches	Chinle	PrHC,
Nazlini Wash, perennial and intermittent reaches	Chinle	PrHC,
Tyende Creek, perennial and intermittent reaches	Chinle	PrHC, AgWS
Corn Creek Wash, perennial and intermittent reaches	Corn-Oraibi	PrHC, AgWS
Oraibi Wash, perennial and intermittent reaches	Corn-Oraibi	PrHC, AgWS
Cottonwood Wash, perennial and intermittent reaches	Cottonwood Wash	PrHC, AgWS
Leroux Wash, perennial and intermittent reaches	Cottonwood Wash	PrHC, AgWS
Dinnebito Wash, perennial and intermittent reaches	Dinnebito Wash	PrHC, AgWS
East Fork Dinnebito Wash, perennial and intermittent reaches	Dinnebito Wash	PrHC, AgWS
Jeddito Wash, perennial and intermittent reaches	Jeddito Wash	PrHC, AgWS
Shinumo Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tanner Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tatahatso Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tiger Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Cedar Wash, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Lee Canyon, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Tappan Wash, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Desert Creek, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
Gothic Creek, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
McCraken Canyon, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
Toh Dahstini Wash perennial and intermittent reaches	Lower San Juan Four Corners	PrHC,
Gypsum Creek, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Nokai Canyon, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Oljeto Wash, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Mancos River, perennial and intermittent reaches	Mancos River	PrHC, AgWS
Cove Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Eagle Nest Arroyo, perennial and intermittent reaches	Middle San Juan River	PrHC,
Pine Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Red Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Salt Creek Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS

New Uses Added to Waterbodies		
Waterbody	Cataloging Unit	New Uses
Standing Redrock Creek, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Begashibito Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Hamblin Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Moenkopi Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC,
Shonto Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Unnamed perennial and intermittent tributaries and playas	North Plains	PrHC, AgWS
Pollaca Wash, perennial and intermittent reaches	Polacca Wash	PrHC, AgWS
Rio Puerco and tributaries perennial and intermittent reaches	Rio Puerco	PrHC, AgWS
Rio Salado and tributaries perennial and intermittent reaches	Rio Salado	PrHC, AgWS
Rio San Jose perennial and intermittent tributaries	Rio San Jose	PrHC, AgWS
Tohdildonih Wash, perennial and intermittent reaches	Upper Puerco	PrHC,
Puerco River, perennial and intermittent reaches	Upper Puerco & Lower Puerco	PrHC, AgWS
Zuni River tributaries, perennial and intermittent reaches	Zuni River	PrHC, AgWS
Arroyo Chico and tributaries, ephemeral reaches	Arroyo Chico	AgWS
Blanco Canyon, ephemeral reaches	Blanco Canyon	AgWS
Largo Canyon, ephemeral reaches	Blanco Canyon	AgWS
Canyon Diablo, ephemeral reaches	Canyon Diablo	AgWS
Padre Canyon, ephemeral reaches	Canyon Diablo	AgWS
San Francisco Wash, ephemeral reaches	Canyon Diablo	AgWS
San Francisco Wash, perennial and intermittent reaches	Canyon Diablo	AgWS
Yellow Jacket Canyon, ephemeral reaches	Canyon Diablo	AgWS
Youngs Canyon, ephemeral reaches	Canyon Diablo	AgWS
Berland Lake (cold water)	Chaco	AgWS
Brimhall Wash, ephemeral reaches	Chaco	AgWS
Chaco River/Chaco Wash, ephemeral reaches	Chaco	AgWS
Chinde Wash, , ephemeral reaches	Chaco	AgWS
Chaco River/Chaco Wash, perennial and intermittent reaches	Chaco	AgWS
Cottonwood Arroyo, ephemeral reaches	Chaco	AgWS
Chuska Lake (cold water)	Chaco	AgWS
De Na Zin Wash, ephemeral reaches	Chaco	AgWS
Dead Man's Wash, ephemeral reaches	Chaco	AgWS
Morgan Lake	Chaco	AgWS
Tocito Wash, ephemeral reaches	Chaco	AgWS
Whiskey Lake (cold water)	Chaco	AgWS
Balakai Wash, ephemeral reaches	Chinle	AgWS
Black Mountain Wash, ephemeral reaches	Chinle	AgWS
Canyon de Chelly Wash, ephemeral reaches	Chinle	AgWS
Aspen Lake (cold water)	Chinle	AgWS
Cottonwood Wash, ephemeral reaches	Chinle	AgWS
Coyote Wash, ephemeral reaches	Chinle	AgWS

New Uses Added to Waterbodies		
Waterbody	Cataloging Unit	New Uses
Laguna Creek, ephemeral reaches	Chinle	AgWS
Canyon de Chelly Wash, perennial and intermittent reaches	Chinle	AgWS
Little Whiskey Creek, ephemeral reaches	Chinle	AgWS
Palisade Creek, ephemeral reaches	Chinle	AgWS
Tyende Creek, ephemeral reaches	Chinle	AgWS
Laguna Creek, perennial and intermittent reaches	Chinle	AgWS
Little Whiskey Creek, perennial and intermittent reaches	Chinle	AgWS
Palisade Creek, perennial and intermittent reaches	Chinle	AgWS
Corn Creek Wash, ephemeral reaches	Corn-Oraibi	AgWS
Oraibi Wash, ephemeral reaches	Corn-Oraibi	AgWS
Cottonwood Wash, ephemeral reaches	Cottonwood Wash	AgWS
Ganado Lake	Cottonwood Wash	AgWS
Dinnebito Wash, ephemeral reaches	Dinnebito Wash	AgWS
East Fork Dinnebito Wash, ephemeral reaches	Dinnebito Wash	AgWS
Jeddito Wash, ephemeral reaches	Jeddito Wash	AgWS
Leroux Wash, ephemeral reaches	Leroux Wash	AgWS
Antelope Lake (cold water)	Leroux Wash	AgWS
Shinumo Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tanner Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tatahatso Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tiger Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Colorado River, cold water reaches	Lower Colorado- Marble Canyon and Lower Lake Powell	AgWS
Colorado River, warm water reaches	Lower Colorado- Marble Canyon and Lower Lake Powell	AgWS
Antelope Creek, ephemeral reaches	Lower Lake Powell	AgWS
Aztec Creek, ephemeral reaches	Lower Lake Powell	AgWS
Kaibito Creek, ephemeral reaches	Lower Lake Powell	AgWS
Navajo Creek, ephemeral reaches	Lower Lake Powell	AgWS
Antelope Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Aztec Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Kaibito Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Navajo Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Cedar Wash, ephemeral reaches	Lower Little Colorado	AgWS
Deadman Wash, ephemeral reaches	Lower Little Colorado	AgWS
Lee Canyon, ephemeral reaches	Lower Little Colorado	AgWS
Little Colorado River, ephemeral reaches	Lower Little Colorado	AgWS
Tappan Wash, ephemeral reaches	Lower Little Colorado	AgWS
Deadman Wash, perennial and intermittent reaches	Lower Little Colorado	AgWS

New Uses Added to Waterbodies		
Waterbody	Cataloging Unit	New Uses
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Lower Little Colorado	AgWS
Little Colorado River, perennial and intermittent reaches	Lower Little Colorado	AgWS
Desert Creek, ephemeral reaches	Lower San Juan Four Corners	AgWS
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	AgWS
Gothic Creek, ephemeral reaches	Lower San Juan Four Corners	AgWS
McCracken Canyon, ephemeral reaches	Lower San Juan Four Corners	AgWS
Teec Nos Pos Wash, ephemeral reaches	Lower San Juan Four Corners	AgWS
Perennial and intermittent tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	AgWS
Gypsum Creek, , ephemeral reaches	Lower San Juan River	AgWS
Nokai Canyon, ephemeral reaches	Lower San Juan River	AgWS
Oljeto Wash, ephemeral reaches	Lower San Juan River	AgWS
Mancos River, ephemeral reaches	Mancos River	AgWS
Cove Wash, ephemeral reaches	Middle San Juan River	AgWS
Ojo Amarillo, ephemeral reaches	Middle San Juan River	AgWS
Pine Wash, ephemeral reaches	Middle San Juan River	AgWS
Red Wash, ephemeral reaches	Middle San Juan River	AgWS
Salt Creek Wash, ephemeral reaches	Middle San Juan River	AgWS
Standing Redrock Creek, ephemeral reaches	Middle San Juan River	AgWS
Ojo Amarillo, perennial and intermittent reaches	Middle San Juan River	AgWS
Begashibito Wash, ephemeral reaches	Moenkopi Wash	AgWS
Hamblin Wash, ephemeral reaches	Moenkopi Wash	AgWS
Shonto Wash, ephemeral reaches	Moenkopi Wash	AgWS
Cow Springs Lake	Moenkopi Wash	AgWS
White Mesa Lake	Moenkopi Wash	AgWS
Unnamed ephemeral tributaries and playas	North Plains	AgWS
Polacca Wash, ephemeral reaches	Polacca Wash	AgWS
Rio Puerco and tributaries, ephemeral reaches	Rio Puerco	AgWS
Alamo Creek, ephemeral reaches	Rio Salado	AgWS
Rio Salado and tributaries, ephemeral reaches	Rio Salado	AgWS
Alamo Creek, perennial and intermittent reaches	Rio Salado	AgWS
Bluewater Creek, ephemeral reaches	Rio San Jose	AgWS
Rio San Jose ephemeral tributaries	Rio San Jose	AgWS
Black Creek, ephemeral reaches	Upper Puerco	AgWS
Bonito Creek, ephemeral reaches	Upper Puerco	AgWS
Black Creek, perennial and intermittent reaches	Upper Puerco	AgWS
Bonito Creek, perennial and intermittent reaches	Upper Puerco	AgWS
Red Lake	Upper Puerco	AgWS
Trout Lake (cold water)	Upper Puerco	AgWS
Puerco River, ephemeral reaches	Upper Puerco & Lower Puerco	AgWS
Gallegos Canyon, ephemeral reaches	Upper San Juan River	AgWS
Gallegos Canyon, perennial and intermittent reaches	Upper San Juan River	AgWS

New Uses Added to Waterbodies		
Waterbody	Cataloging Unit	New Uses
Zuni River tributaries, ephemeral reaches	Zuni River	AgWS
Coyote Wash, ephemeral reaches	Chaco	ScHC, AgWS
Hunter Wash, ephemeral reaches	Chaco	ScHC, AgWS
Indian Creek, ephemeral reaches	Chaco	ScHC, AgWS
Sheep Springs Wash, ephemeral reaches	Chaco	ScHC, AgWS
Palisade Creek, perennial and intermittent reaches	Chinle	AgWS

New Waterbodies and Associated Uses Added								
New Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Captain Tom Reservoir	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Toadlena Fish Hatchery un-named ephemeral tributaries	Chaco			ScHC	AgWS		A&W	LW
Toadlena Fish Hatchery un-named intermittent and perennial tributaries	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Alcove Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Alcove Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Bubbling Springs Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Bubbling Springs Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Dowozhiebito Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Dowozhiebito Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Long Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Long Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
White Rock Wash, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
White Rock Wash, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Black Soil Wash , ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Black Soil Wash , perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Scattered Willow Wash , ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Scattered Willow Wash , perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Willow Creeek , ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Willow Creek, perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW

New Waterbodies and Associated Uses Added								
New Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Big Canyon, ephemeral reaches	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Big Canyon, perennial and intermittent reaches	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Salt Trail Canyon, ephemeral reaches	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Salt Trail Canyon, perennial and intermittent reaches	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - ephemeral reaches	Lower San Juan River			ScHC	AgWS		A&W	LW
Cha Canyon - intermittent reaches	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - perennial reaches	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Piute Canyon, ephemeral reaches	Lower San Juan River			ScHC	AgWS		A&W	LW
Piute Canyon, perennial and intermittent reaches	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Little Colorado River, ephemeral reaches	Middle Little Colorado			ScHC	AgWS		A&W	LW
Little Colorado River, perennial and intermittent reaches	Middle Little Colorado		PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Middle San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Middle San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW

New Waterbodies and Associated Uses Added								
New Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Upper San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Upper San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
West Fork Gallegos Canyon, ephemeral reaches	Upper San Juan River			ScHC	AgWS		A&W	LW
West Fork Gallegos Canyon, perennial and intermittent reaches	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW

Table 206.2	Summary
Max. Total Ammonia (Acute)	Removed, and replaced with tables 207.19, 207.20, and 207.21
Table 206.3	Summary
Max. Total Ammonia (Chronic)	Removed, and replaced with tables 207.19, 207.20, and 207.21

Table 207.1 Numeric SWQS	Summary (criteria values detailed in Enclosure B Tables 5-10)	
Drinking Water Source	Hexachlorocyclopentadiene	Dibutyl phthalate
	Nitrobenzene	Dieldrin
	Benzene	Diethyl phthalate
	Bis(2-ethylhexyl)phthalate	Dimethyl phthalate
	Barium (Ba)	Dinitrophenols
	Boron	Di-n-octyl phthalate
	2-Chlorophenol	Dinoseb
	1,1,2-Trichloroethane	Diquat
	1,2,4,5-Tetrachlorobenzene	Endosulfan (Total)
	1,2,4-Trichlorobenzene	Endosulfan sulfate
	1,3-Dichlorobenzene	Endothall
	1,3-Dichloropropene	Endrin
	2,4,5-Trichlorophenol	Ethylbenzene
	2,4-Dichlorophenol	Fluoranthene
	2,4-Dimethyl phenol	Fluorene
	2,4-Dinitrophenol	gamma-Hexacholorcyclohexane (HCH)
	2,4-Dinitrotoluene	Glyphosate
	2,6-Dinitrotoluene	Heptachlor
	2-Chloronaphthalene	Heptachlor epoxide
	2-methyl-4,6-Dinitrophenol	Hexachlorobenzene
	3-methyl 4-Chlorophenol	Hexachlorobutadiene
	Acenaphthene	Hexachlorocyclohexane (HCH)-
	Alachlor	Technical
	Aldrin	Hexachloroethane
	alpha-Endosulfan	Indeno(1,2,3-cd)pyrene
	alpha-Hexacholorcyclohexane (HCH)	Isophorone
	Anthracene	Manganese
	Atrazine	Methoxychlor
	Benzo(a)anthracene	p,p'-DDD (p,p-
	Benzo(a)pyrene	Dichlorodiphenyldichloroethane)
	Benzo(b)fluoranthene	p,p'-DDE (p,p-
	beta-Endosulfan	Dichlorodiphenyldichloroethene)
	beta-Hexacholorcyclohexane (HCH)	p,p'-DDT (p,p-
	Bis(2-chloroisopropyl)ether	Dichlorodiphenyltrichloroethane)
	Bis(2-ethylhexyl) adipate	Pentachlorobenzene
	Bis(Chloromethyl) ether	Pentachlorophenol
	Butyl benzyl phthalate	Pyrene
	Chlordane	Toluene
	Dibenzo(a,h)anthracene	Trichloroethene

Table 207.1 Numeric SWQS	Summary (criteria values detailed in Enclosure B Tables 5-10)	
Fish Consumption	Hexachlorocyclopentadiene Nitrobenzene Benzene Chlorobenzene 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,2,4,5-Tetrachlorobenzene 1,2,4-Trichlorobenzene 1,2-trans-Dichloroethene 1,3-Dichlorobenzene 1,3-Dichloropropene 2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP) 2,4,5-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenoxyacetic acid (2,4-D) 2,4-Dimethyl phenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Chloronaphthalene 2-methyl-4,6-Dinitrophenol 3,3'-Dichlorobenzidine Acenaphthene Aldrin Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene beta-Hexachlorocyclohexane (HCH) Bis(2-chloroisopropyl)ether Bis(Chloromethyl) ether Bromoform Butyl benzyl phthalate	Chlordane Dibenzo(a,h)anthracene Dibutyl phthalate Diethyl phthalate Dimethyl phthalate Dinitrophenols Endosulfan (Total) Endrin Ethylbenzene Fluoranthene Fluorene gamma-Hexachlorocyclohexane (HCH) Glyphosate Heptachlor Heptachlor epoxide Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclohexane (HCH)-Technical Hexachloroethane Indeno(1,2,3-cd)pyrene Methoxychlor p,p'-DDD (p,p-Dichlorodiphenyldichloroethane) p,p'-DDE (p,p-Dichlorodiphenyldichloroethene) p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane) Pentachlorobenzene Pentachlorophenol Pyrene Toluene Trichloroethene Vinyl Chloride
Primary Contact	Di-n-octyl phthalate Dinoseb Diquat Glyphosate Guthion	Hexachlorobenzene Hexachlorocyclohexane (HCH)-Technical Manganese Pentachlorobenzene
Secondary Contact	Di-n-octyl phthalate Dinoseb Diquat Endosulfan (Total)	Endothall Fluoride Glyphosate Manganese

Table 207.1 Numeric SWQS		Summary (criteria values detailed in Enclosure B Tables 5-10)	
Agriculture	1,1,1-Trichloroethane	Endrin	
	Aluminum (Al) (pH 6.5-9.0 for A&W)	Manganese	
	Boron	Molybdenum (Mo)	
	Cobalt (Co)	Nickel (Ni)	
	Copper (Cu)	Polychlorinated biphenyls (PCBs)	
	Dieldrin	Toxaphene	
		Vanadium (V)	
Livestock Watering	Boron	Endrin	
	Chlorine (total residual)	Gross Alpha (pCi/L) (See (d))	
	Cobalt (Co)	Mercury (Hg)	
	Copper (Cu)	Nirite+Nitrate-N (mg/L)	
	Cyanide (as free Cyanide)	Polychlorinated biphenyls (PCBs)	
	Dieldrin	Toxaphene	
		Vanadium (V)	
Aquatic (Acute)	Alachlor	Guthion	
	Endosulfan (Total)	Mercury (Hg)	
Aquatic (Chronic)	Alachlor	Hexachlorobenzene	
	Endosulfan (Total)	Mercury (Hg)	
	Guthion	Methylmercury	
	Heptachlor	Endrin	
	Heptachlor epoxide	Endrin aldehyde	
Table 207.19	Summary		
Max. Total Ammonia Salmonids (Acute)	Updated standard to address salmonid presence.		
Table 207.20	Summary		
Max. Total Ammonia (Acute)	Updated standard to address salmonid absence.		
Table 207.21	Summary		
Max. Total Ammonia (Chronic)	Updated standard to address salmonid absence.		
	Footnotes were removed		

Enclosure B

EPA Review of Navajo Nation 2015 Surface Water Quality Standards

Background

On January 23, 2006, EPA approved the Navajo Nation's application for Treatment in a similar manner as a state (TAS) for purposes of administering a water quality standards (WQS) program under Section 303 of the Clean Water Act (CWA). Section 303 of the CWA, 33 U.S.C. §1313, requires states and TAS-approved tribes to establish WQS and to submit any new or revised standards to EPA for review and approval or disapproval. See also 40 C.F.R. Part 131. Navajo Nation's adoption of new or revised WQS involved the following actions: On March 10, 2016, the Navajo Nation Environmental Protection Agency (NNEPA) published a Notice of Proposed Rulemaking of WQS revisions. On August 11, 2016 Navajo Nation solicited public comments, and on September 29, 2016 the Tribe held a public hearing. The NNEPA prepared a response to comments and amended the text of some of the proposed rules. The proposed amendments were approved by Navajo Nation Council's Resources and Development Committee through resolution RDCMY-43-17 on May 23, 2017. A certification from the Attorney General for Navajo Nation, Ethel Branch, dated November 14, 2018, stated that the revisions were duly adopted pursuant to Navajo Nation law. NNEPA transmitted the revisions to EPA by letter received on November 20, 2018. Supplemental technical information was submitted electronically and received November 13, 2019. As discussed more fully below, where EPA has determined that the Navajo Nation's rule revisions are new or revised water quality standards, EPA has reviewed and acted on these revisions pursuant to Section 303(c) of the CWA.¹

Synopsis of Recommendation

Section 303(c) of the CWA directs states to adopt WQS for waters that are subject to the CWA. Section 303(c) of the CWA's implementing regulations at 40 C.F.R. Part 131, require, among other things, that WQS specify appropriate designated uses of the waters and water quality criteria that protect those uses. EPA reviews the WQS to determine if they are consistent with the factors listed at 40 C.F.R. § 131.5 and contain the minimum requirements listed at 40 C.F.R. § 131.6.

The NNEPA submitted changes in multiple sections and tables with deletions to Navajo Nation's WQS regulations shown as stricken and additions shown as underlined.

As described below, EPA finds the following amendments to be consistent with 40 C.F.R. Part 131 and approves these Provisions pursuant to Section 303(c) of the CWA:

- § 104 Definitions parts E, I, X, Z, GG, LL, YY;
- § 201 Antidegradation policy sections D, F, G, H, I;
- § 202 Antidegradation Policy Implementation Methods; § 203 A;
- § 206 Designated Use Classification (sections B, C, D, E, G, I; § 207 D, E, I and (Tables: 206.1, 206.2, 206.3),)

¹ EPA has provided FAQs on "What is a New or Revised Water Quality Standard Under CWA 303(c)(3)?" at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>. The link provides detailed information of such analysis.

- § 207 Numeric Surface WQS (including tables 207.1, 207.19, 207.20, and 207.21), § 209 Exceptional Waters
- § 212 Site-Specific Standards;
- § 213 Natural Background; and Ammonia criteria tables

Synopsis of Disapproval

As described below, EPA finds the following amendments are not consistent with 40 C.F.R. Part 131 and disapproves these provisions pursuant to Section 303(c) of the CWA:

- § 207 Numeric surface WQS, except sections noted below
- Table 207.1 Numeric Surface WQS for:
 - Bis(2-ethylhexyl)phthalate criterion for primary contact use
 - Cadmium acute and chronic criteria for aquatic and wildlife

Synopsis of Information Request

EPA is not acting on the following amendment and offers NNEPA the opportunity to submit additional information.

- § 207 Numeric surface WQS, Section E. Suspended Solids

Analysis of State/Tribe/Territory Submittal

EPA Approval of WQS

Navajo Nation's new and/or revised water quality standards, described below are consistent with CWA section 303(c) and 40 C.F.R. Part 131 and are approved as described below.

§ 104 DEFINITIONS

EPA finds that the updated and added definitions in § 104 for: Assimilative Capacity, Chronic Standard, Hardness, Ephemeral Surface Water, Intermittent Surface Water, Perennial Surface Water, and Waters of the Navajo Nation are consistent with EPA guidance. The removal of "Unique Waters" is consistent with the replacement in "Exceptional Waters" of the Navajo Nation.

EPA finds the Changes to Critical Flow Condition, Toxic Pollutant to be directed at implementation activities and are thus outside of the scope of this action.

Updates to Dissolved, Pollution, Perennial Surface Water are editorial in nature. EPA finds these updates to be non-substantive changes. EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA's acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>).

§ 201 ANTIDegradATION POLICY

NNEPA's new updates to § 201 are as follows:

Removal of section D, the unique waters identified is changed to exceptional waters in section I below
“Where high quality waters or Unique Waters constitute an outstanding resource of the Navajo Nation, such as waters of National parks and monuments, Tribal parks and wildlife refuges, and other waters of exceptional recreational, cultural or ecological significance, that water quality shall be maintained and protected.”

F. The Director shall determine whether there is degradation of water quality in a surface water on a pollutant-by-pollutant basis.

G. Tier 1: The level of water quality necessary to protect existing uses shall be maintained and protected. No degradation of existing water quality is permitted in a surface water where the existing water quality does not meet the applicable water quality standard.

H. Tier 2: Where existing water quality in a surface water is better than the applicable water quality standard, the existing water quality shall be maintained and protected. The Director may allow limited degradation of existing water quality in the surface water, provided that the Department holds a public hearing on whether degradation should be allowed, and the Director makes all of the following findings:

- 1 The level of water quality necessary to protect existing uses is fully protected. Water quality shall not be lowered to a level that does not comply with applicable water quality standards.*
- 2 The highest statutory and regulatory requirements for new and existing point sources are achieved.*
- 3 All cost-effective and reasonable best management practices for non-point source pollution control are implemented.*
- 4 Allowing lower water quality is necessary to accommodate important economic or social development in the area where the surface water is located.*

I. Tier 3: Existing water quality shall be maintained and protected in a surface water that is classified as a Exceptional Water of the Navajo Nation under NNSWQS 2015 Section 209. The Director shall not allow degradation of an Exceptional Water of the Navajo Nation under Section 209 Subsection (C).”

EPA finds that NNEPA's modifications to the antidegradation policy are consistent with the regulations at 40 C.F.R. § 131.12.

§ 202 ANTIDegradATION IMPLEMENTATION

NNEPA made substantial revisions to their antidegradation implementation procedures. Per 40 C.F.R. § 131.12, EPA does not approve antidegradation implementation methods such as those described in § 202. Rather pursuant to 40 C.F.R. § 131.12(b), EPA must ensure that each state or tribe's antidegradation policy is consistent with the requirements outlined in 40 C.F.R. § 131.12. EPA finds that these changes are consistent with 40 C.F.R. § 131.12.

§ 203. NARRATIVE WATER QUALITY STANDARDS

Under section A. NNEPA revised language in their narrative water quality standards. In two instances NNEPA replaced the phrase *“indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend”* with *“aquatic life and wildlife”* EPA finds these two changes to be editorial and therefore non-substantive changes.

NNEPA also added language under section B, which is their “free from toxics” narrative WQS stating *“Aquatic toxicity may be determined by the “National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Draft, U.S. Environmental Protection Agency, Office of Wastewater Management, (EPA-832-B-04-003) (November 2004)” which is incorporated by reference.”*

EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA’s acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>).

§ 206 DESIGNATED USE CLASSIFICATION SYSTEM FOR NAVAJO NATION SURFACE WATERS.

The changes to sections A and F are editorial in nature and are noted as a non-substantive changes. Revisions and new sections B through E, and G are non-substantive changes that reflect NNEPA’s internal processes for use attainability analyses (UAA) and its intent to comply with regulations in 40 C.F.R. § 131.10.

EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA’s acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>).

NNEPA also added a new section (I) with the following text.

The following minimum designated uses apply to a surface water that is not listed in Table 206.1 but that is a tributary to a listed surface water:

- 1 The aquatic and wildlife, agricultural water supply, secondary human contact and livestock watering designated uses apply to a tributary that is an ephemeral water.*
- 2 The aquatic and wildlife, agricultural water supply, secondary human contact, primary human contact, fish consumption and livestock watering designated uses apply to an unlisted tributary that is a perennial or intermittent surface water.*

This guidance in item 2 (above) clarifies NNEPA's intent to provide all designated uses to perennial and intermittent tributaries that are not included by name in Table 206.1. The guidance in item 1 (above) clarifies NNEPA's intent not to provide primary contact or fish consumption uses to unnamed tributaries that are ephemeral.

NNEPA has updated Table 206.1 to reflect this clarification. On November 13, 2019 Navajo Nation provided EPA with the use attainability analysis to support these changes. The following text is the use ability analysis that NNEPA provided to EPA:

“Based on current available information and analyses, PrHC and FC are not current uses of ephemeral reaches and cannot be attained in ephemerally flowing surface waters. (A detailed list of each surface water body for which these changes were made may be found in Attachment B to this letter).

This determination is consistent with 40 Code of Federal Regulation 131.10(g) which allows for states (and tribes) to remove a designated use which is not an existing use, as defined in federal Clean Water Act § 131.3, and 40 Code of Federal Regulation 131.10(g)(2) which states that ephemeral flow conditions prevent the attainment of the use.

All surface waters of the Navajo Nation, including perennial, intermittent, and ephemeral waters are used, or have the potential to be used, as water supply for agriculture. Therefore Agricultural Water Supply (AgWS) was designated as a use for all surface water bodies listed in Table 206.1. The AgWS is a use which may be attained by perennial, intermittent, and ephemeral surface waters of the Navajo Nation.

This determination for ephemeral waters is consistent with 40 Code of Federal Regulation 131.10(j)(1) which allows for states (and tribes) to designate uses that do not include the uses specified in federal Clean Water Act § 101(a)(2).

The “domestic water supply” designated use was removed from the Puerco River. Domestic water supply is not an existing use of the Puerco River. And the Puerco River receives effluent from the Gallup, New Mexico waste water treatment facility so this use cannot currently be attained.

This determination is consistent with 40 Code of Federal Regulation 131.10(g) which allows for states (and tribes) to remove a designated use which is not an existing use, as defined in federal Clean Water Act § 131.3, and 40 Code of Federal Regulation 131.10(g) (3) which states that human caused conditions or sources of pollution prevent the attainment of the use.

The ephemeral flowing segments of the Little Colorado River are not currently used for “domestic water supply” and this use cannot currently be attained.

This determination is consistent with 40 Code of Federal Regulation 131.10(g) which allows for states (and tribes) to remove a designated use which is not an existing use, as defined in federal Clean Water Act § 131.3, and 40 Code of Federal Regulation 131.10(g)(2) which states that ephemeral flow conditions prevent the attainment of the use.”

In total NNEPA changed over 650 waterbody and designated use combinations in Table 206.1, as detailed in the below three tables. Designated uses applied to waters are: Domestic Water Supply (DOM), Primary Human Contact (PrHC), Secondary Human contact (ScHC), Agricultural Water Supply (AgWS), Fish Consumption (FC), Aquatic and Wildlife (A&W), Livestock Watering (LW).

The water previously listed as Colorado River mouth of Paria River to Glen Canyon Dam, within the Lower Lake Powell cataloguing unit was wholly removed and subdivided multiple waterbodies within the same cataloguing unit in accordance with 40 C.F.R. § 131.10(g) factor 2.

Table 1 Designated use changes requiring a UAA in Table 206.1

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Nazlini Wash, ephemeral reaches	Chinle	PrHC, AgWS, FC	2
Arroyo Chico and tributaries, ephemeral reaches	Arroyo Chico	PrHC, FC	2
Blanco Canyon, ephemeral reaches	Blanco Canyon	PrHC, FC	2
Largo Canyon, ephemeral reaches	Blanco Canyon	PrHC, FC	2
Canyon Diablo, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Padre Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
San Francisco Wash, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Yellow Jacket Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Youngs Canyon, ephemeral reaches	Canyon Diablo	PrHC, FC	2
Brimhall Wash, ephemeral reaches	Chaco	PrHC, FC	2
Captain Tom Wash, ephemeral reaches	Chaco	PrHC, FC	2
Chaco River/Chaco Wash, ephemeral reaches	Chaco	PrHC, FC	2
Chinde Wash, ephemeral reaches	Chaco	PrHC, FC	2
Cottonwood Arroyo, ephemeral reaches	Chaco	PrHC, FC	2
Coyote Wash, ephemeral reaches	Chaco	PrHC, FC	2
De Na Zin Wash, ephemeral reaches	Chaco	PrHC, FC	2
Dead Man's Wash, ephemeral reaches	Chaco	PrHC, FC	2
Hunter Wash, ephemeral reaches	Chaco	PrHC, FC	2
Indian Creek, ephemeral reaches	Chaco	PrHC, FC	2
Red Willow Wash, ephemeral reaches	Chaco	PrHC, FC	2
Sanostee Wash, ephemeral reaches	Chaco	PrHC, FC	2
Sheep Springs Wash, ephemeral reaches	Chaco	PrHC, FC	2
Tocito Wash, ephemeral reaches	Chaco	PrHC, FC	2
Balakai Wash, ephemeral reaches	Chinle	PrHC, FC	2
Black Mountain Wash, ephemeral reaches	Chinle	PrHC, FC	2
Canyon de Chelly Wash, ephemeral reaches	Chinle	PrHC, FC	2
Canyon del Muerto Wash, ephemeral reaches	Chinle	PrHC, FC	2
Chinle Creek/Chinle Wash, ephemeral reaches	Chinle	PrHC, FC	2
Cottonwood Wash, ephemeral reaches	Chinle	PrHC, FC	2
Coyote Wash, ephemeral reaches	Chinle	PrHC, FC	2
Crystal Creek, ephemeral reaches	Chinle	PrHC, FC	2
Laguna Creek, ephemeral reaches	Chinle	PrHC, FC	2
Little Whiskey Creek, ephemeral reaches	Chinle	PrHC, FC	2
Lukachukai Wash, ephemeral reaches	Chinle	PrHC, FC	2
McElmo Creek, ephemeral reaches	Chinle	PrHC, FC	2
Montezuma Creek, ephemeral reaches	Chinle	PrHC, FC	2
Palisade Creek, ephemeral reaches	Chinle	PrHC, FC	2
Tohtso Creek, ephemeral reaches	Chinle	PrHC, FC	2
Tsaile Creek, ephemeral reaches	Chinle	PrHC, FC	2

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Tyende Creek, ephemeral reaches	Chinle	PrHC, FC	2
Walker Creek, ephemeral reaches	Chinle	PrHC, FC	2
Wheatfields Creek, ephemeral reaches	Chinle	PrHC, FC	2
Whiskey Creek, ephemeral reaches	Chinle	PrHC, FC	2
Corn Creek Wash, ephemeral reaches	Corn-Oraibi	PrHC, FC	2
Oraibi Wash, ephemeral reaches	Corn-Oraibi	PrHC, FC	2
Cottonwood Wash, ephemeral reaches	Cottonwood Wash	PrHC, FC	2
Kinlichee Creek, ephemeral reaches	Cottonwood Wash	PrHC, FC	2
Pueblo Colorado Wash, ephemeral reaches	Cottonwood Wash	PrHC, FC	2
Dinnebito Wash, ephemeral reaches	Dinnebito Wash	PrHC, FC	2
East Fork Dinnebito Wash, ephemeral reaches	Dinnebito Wash	PrHC, FC	2
Jeddito Wash, ephemeral reaches	Jeddito Wash	PrHC, FC	2
Leroux Wash, ephemeral reaches	Leroux Wash	PrHC, FC	2
Shinumo Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tanner Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tatahatso Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Tiger Wash, ephemeral reaches	Lower Colorado- Marble Canyon	PrHC, FC	2
Antelope Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Aztec Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Kaibito Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Navajo Creek, ephemeral reaches	Lower Lake Powell	PrHC, FC	2
Cedar Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Deadman Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Lee Canyon, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Little Colorado River, ephemeral reaches	Lower Little Colorado	Dom. PrHC, FC	2
Tappan Wash, ephemeral reaches	Lower Little Colorado	PrHC, FC	2
Desert Creek, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	PrHC, FC	2
Gothic Creek, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
McCracken Canyon, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Teec Nos Pos Wash, ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2
Toh Dahstini Wash ephemeral reaches	Lower San Juan Four Corners	PrHC, FC	2

Waterbody	Cataloging Unit	Uses Removed	40 C.F.R. 131.10(g) factor
Gypsum Creek, ephemeral reaches	Lower San Juan River	PrHC, FC	2
Nokai Canyon, ephemeral reaches	Lower San Juan River	PrHC, FC	2
Oljeto Wash, ephemeral reaches	Lower San Juan River	PrHC, FC	2
Mancos River, ephemeral reaches	Mancos River	PrHC, FC	2
Baker Arroyo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Cove Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Eagle Nest Arroyo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Ojo Amarillo, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Pine Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Red Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Salt Creek Wash, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Standing Redrock Creek, ephemeral reaches	Middle San Juan River	PrHC, FC	2
Begashibito Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Hamblin Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Moenkopi Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Shonto Wash, ephemeral reaches	Moenkopi Wash	PrHC, FC	2
Unnamed ephemeral tributaries and playas	North Plains	PrHC, FC	2
Polacca Wash, ephemeral reaches	Polacca Wash	PrHC, FC	2
Rio Puerco and tributaries, ephemeral reaches	Rio Puerco	PrHC, FC	2
Alamo Creek, ephemeral reaches	Rio Salado	PrHC, FC	2
Rio Salado and tributaries, ephemeral reaches	Rio Salado	PrHC, FC	2
Bluewater Creek, ephemeral reaches	Rio San Jose	PrHC, FC	2
Rio San Jose ephemeral tributaries	Rio San Jose	PrHC, FC	2
Asaayi Creek - East Fork, ephemeral reaches	Upper Puerco	PrHC, FC	2
Asaayi Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Black Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Bonito Creek, ephemeral reaches	Upper Puerco	PrHC, FC	2
Tohdildonih Wash, ephemeral reaches	Upper Puerco	PrHC, FC	2
Puerco River, ephemeral reaches	Upper Puerco & Lower Puerco	Dom, PrHC, FC	2
Gallegos Canyon, ephemeral reaches	Upper San Juan River	PrHC, FC	2
Rio Pescado, ephemeral reaches	Zuni River	PrHC, FC	2
Zuni River tributaries, ephemeral reaches	Zuni River	PrHC, FC	2

Table 2 Waterbodies gaining designated uses in Table 206.1

Waterbody	Cataloging Unit	Uses Added
Arroyo Chico and tributaries perennial and intermittent reaches	Arroyo Chico	PrHC, AgWS
Torreón Wash, perennial and intermittent reaches	Arroyo Chico	PrHC, AgWS
Blanco Canyon, perennial and intermittent reaches	Blanco Canyon	PrHC, AgWS
Largo Canyon, perennial and intermittent reaches	Blanco Canyon	PrHC, AgWS

Waterbody	Cataloging Unit	Uses Added
Canyon Diablo, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Padre Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Yellow Jacket Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Youngs Canyon, perennial and intermittent reaches	Canyon Diablo	PrHC, AgWS
Brimhall Wash, perennial and intermittent reaches	Chaco	PrHC,
Chinde Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Cottonwood Arroyo, perennial and intermittent reaches	Chaco	PrHC, AgWS
Coyote Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
De Na Zin Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Dead Man's Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Hunter Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
Indian Creek, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
Red Willow Wash, perennial and intermittent reaches	Chaco	PrHC,
Sheep Springs Wash, perennial and intermittent reaches	Chaco	PrHC, ScHC, AgWS
Tocito Wash, perennial and intermittent reaches	Chaco	PrHC, AgWS
Balakai Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Black Mountain Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Cottonwood Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Coyote Wash, perennial and intermittent reaches	Chinle	PrHC, AgWS
Lukachukai Wash, reaches	Chinle	PrHC,
Nazlini Wash, perennial and intermittent reaches	Chinle	PrHC,
Tyende Creek, perennial and intermittent reaches	Chinle	PrHC, AgWS
Corn Creek Wash, perennial and intermittent reaches	Corn-Oraibi	PrHC, AgWS
Oraibi Wash, perennial and intermittent reaches	Corn-Oraibi	PrHC, AgWS
Cottonwood Wash, perennial and intermittent reaches	Cottonwood Wash	PrHC, AgWS
Leroux Wash, perennial and intermittent reaches	Cottonwood Wash	PrHC, AgWS
Dinnebito Wash, perennial and intermittent reaches	Dinnebito Wash	PrHC, AgWS
East Fork Dinnebito Wash, perennial and intermittent reaches	Dinnebito Wash	PrHC, AgWS
Jeddito Wash, perennial and intermittent reaches	Jeddito Wash	PrHC, AgWS

Waterbody	Cataloging Unit	Uses Added
Shinumo Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tanner Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tatahatso Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Tiger Wash, perennial and intermittent reaches	Lower Colorado- Marble Canyon	PrHC, AgWS
Cedar Wash, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Lee Canyon, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Tappan Wash, perennial and intermittent reaches	Lower Little Colorado	PrHC, AgWS
Desert Creek, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
Gothic Creek, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
McCraken Canyon, perennial and intermittent reaches	Lower San Juan Four Corners	PrHC, AgWS
Toh Dahstini Wash perennial and intermittent reaches	Lower San Juan Four Corners	PrHC,
Gypsum Creek, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Nokai Canyon, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Oljeto Wash, perennial and intermittent reaches	Lower San Juan River	PrHC, AgWS
Mancos River, perennial and intermittent reaches	Mancos River	PrHC, AgWS
Cove Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Eagle Nest Arroyo, perennial and intermittent reaches	Middle San Juan River	PrHC,
Pine Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Red Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Salt Creek Wash, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Standing Redrock Creek, perennial and intermittent reaches	Middle San Juan River	PrHC, AgWS
Begashibito Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Hamblin Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Moenkopi Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC,
Shonto Wash, perennial and intermittent reaches	Moenkopi Wash	PrHC, AgWS
Unnamed perennial and intermittent tributaries and playas	North Plains	PrHC, AgWS
Pollaca Wash, perennial and intermittent reaches	Polacca Wash	PrHC, AgWS
Rio Puerco and tributaries perennial and intermittent reaches	Rio Puerco	PrHC, AgWS
Rio Salado and tributaries perennial and intermittent reaches	Rio Salado	PrHC, AgWS
Rio San Jose perennial and intermittent tributaries	Rio San Jose	PrHC, AgWS
Tohdildonih Wash, perennial and intermittent reaches	Upper Puerco	PrHC,

Waterbody	Cataloging Unit	Uses Added
Puerco River, perennial and intermittent reaches	Upper Puerco & Lower Puerco	PrHC, AgWS
Zuni River tributaries, perennial and intermittent reaches	Zuni River	PrHC, AgWS
Arroyo Chico and tributaries, ephemeral reaches	Arroyo Chico	AgWS
Blanco Canyon, ephemeral reaches	Blanco Canyon	AgWS
Largo Canyon, ephemeral reaches	Blanco Canyon	AgWS
Canyon Diablo, ephemeral reaches	Canyon Diablo	AgWS
Padre Canyon, ephemeral reaches	Canyon Diablo	AgWS
San Francisco Wash, ephemeral reaches	Canyon Diablo	AgWS
San Francisco Wash, perennial and intermittent reaches	Canyon Diablo	AgWS
Yellow Jacket Canyon, ephemeral reaches	Canyon Diablo	AgWS
Youngs Canyon, ephemeral reaches	Canyon Diablo	AgWS
Berland Lake (cold water)	Chaco	AgWS
Brimhall Wash, ephemeral reaches	Chaco	AgWS
Chaco River/Chaco Wash, ephemeral reaches	Chaco	AgWS
Chinde Wash, ephemeral reaches	Chaco	AgWS
Chaco River/Chaco Wash, perennial and intermittent reaches	Chaco	AgWS
Cottonwood Arroyo, ephemeral reaches	Chaco	AgWS
Chuska Lake (cold water)	Chaco	AgWS
De Na Zin Wash, ephemeral reaches	Chaco	AgWS
Dead Man's Wash, ephemeral reaches	Chaco	AgWS
Morgan Lake	Chaco	AgWS
Tocito Wash, ephemeral reaches	Chaco	AgWS
Whiskey Lake (cold water)	Chaco	AgWS
Balakai Wash, ephemeral reaches	Chinle	AgWS
Black Mountain Wash, ephemeral reaches	Chinle	AgWS
Canyon de Chelly Wash, ephemeral reaches	Chinle	AgWS
Aspen Lake (cold water)	Chinle	AgWS
Cottonwood Wash, ephemeral reaches	Chinle	AgWS
Coyote Wash, ephemeral reaches	Chinle	AgWS
Laguna Creek, ephemeral reaches	Chinle	AgWS
Canyon de Chelly Wash, perennial and intermittent reaches	Chinle	AgWS
Little Whiskey Creek, ephemeral reaches	Chinle	AgWS
Palisade Creek, ephemeral reaches	Chinle	AgWS
Tyende Creek, ephemeral reaches	Chinle	AgWS
Laguna Creek, perennial and intermittent reaches	Chinle	AgWS
Little Whiskey Creek, perennial and intermittent reaches	Chinle	AgWS
Palisade Creek, perennial and intermittent reaches	Chinle	AgWS
Corn Creek Wash, ephemeral reaches	Corn-Oraibi	AgWS
Oraibi Wash, ephemeral reaches	Corn-Oraibi	AgWS
Cottonwood Wash, ephemeral reaches	Cottonwood Wash	AgWS
Ganado Lake	Cottonwood Wash	AgWS

Waterbody	Cataloging Unit	Uses Added
Dinnebito Wash, ephemeral reaches	Dinnebito Wash	AgWS
East Fork Dinnebito Wash, ephemeral reaches	Dinnebito Wash	AgWS
Jeddito Wash, ephemeral reaches	Jeddito Wash	AgWS
Leroux Wash, ephemeral reaches	Leroux Wash	AgWS
Antelope Lake (cold water)	Leroux Wash	AgWS
Shinumo Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tanner Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tatahatso Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Tiger Wash, ephemeral reaches	Lower Colorado- Marble Canyon	AgWS
Colorado River, cold water reaches	Lower Colorado- Marble Canyon and Lower Lake Powell	AgWS
Colorado River, warm water reaches	Lower Colorado- Marble Canyon and Lower Lake Powell	AgWS
Antelope Creek, ephemeral reaches	Lower Lake Powell	AgWS
Aztec Creek, ephemeral reaches	Lower Lake Powell	AgWS
Kaibito Creek, ephemeral reaches	Lower Lake Powell	AgWS
Navajo Creek, ephemeral reaches	Lower Lake Powell	AgWS
Antelope Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Aztec Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Kaibito Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Navajo Creek, perennial and intermittent reaches	Lower Lake Powell	AgWS
Cedar Wash, ephemeral reaches	Lower Little Colorado	AgWS
Deadman Wash, ephemeral reaches	Lower Little Colorado	AgWS
Lee Canyon, ephemeral reaches	Lower Little Colorado	AgWS
Little Colorado River, ephemeral reaches	Lower Little Colorado	AgWS
Tappan Wash, ephemeral reaches	Lower Little Colorado	AgWS
Deadman Wash, perennial and intermittent reaches	Lower Little Colorado	AgWS
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Lower Little Colorado	AgWS
Little Colorado River, perennial and intermittent reaches	Lower Little Colorado	AgWS
Desert Creek, ephemeral reaches	Lower San Juan Four Corners	AgWS
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	AgWS
Gothic Creek, ephemeral reaches	Lower San Juan Four Corners	AgWS
McCracken Canyon, ephemeral reaches	Lower San Juan Four Corners	AgWS
Teec Nos Pos Wash, ephemeral reaches	Lower San Juan Four Corners	AgWS
Perennial and intermittent tributaries to the San Juan River (except as listed)	Lower San Juan Four Corners	AgWS
Gypsum Creek, , ephemeral reaches	Lower San Juan River	AgWS
Nokai Canyon, ephemeral reaches	Lower San Juan River	AgWS

Waterbody	Cataloging Unit	Uses Added
Oljeto Wash, ephemeral reaches	Lower San Juan River	AgWS
Mancos River, ephemeral reaches	Mancos River	AgWS
Cove Wash, ephemeral reaches	Middle San Juan River	AgWS
Ojo Amarillo, ephemeral reaches	Middle San Juan River	AgWS
Pine Wash, ephemeral reaches	Middle San Juan River	AgWS
Red Wash, ephemeral reaches	Middle San Juan River	AgWS
Salt Creek Wash, ephemeral reaches	Middle San Juan River	AgWS
Standing Redrock Creek, ephemeral reaches	Middle San Juan River	AgWS
Ojo Amarillo, perennial and intermittent reaches	Middle San Juan River	AgWS
Begashibito Wash, ephemeral reaches	Moenkopi Wash	AgWS
Hamblin Wash, ephemeral reaches	Moenkopi Wash	AgWS
Shonto Wash, ephemeral reaches	Moenkopi Wash	AgWS
Cow Springs Lake	Moenkopi Wash	AgWS
White Mesa Lake	Moenkopi Wash	AgWS
Unnamed ephemeral tributaries and playas	North Plains	AgWS
Polacca Wash, ephemeral reaches	Polacca Wash	AgWS
Rio Puerco and tributaries, ephemeral reaches	Rio Puerco	AgWS
Alamo Creek, ephemeral reaches	Rio Salado	AgWS
Rio Salado and tributaries, ephemeral reaches	Rio Salado	AgWS
Alamo Creek, perennial and intermittent reaches	Rio Salado	AgWS
Bluewater Creek, ephemeral reaches	Rio San Jose	AgWS
Rio San Jose ephemeral tributaries	Rio San Jose	AgWS
Black Creek, ephemeral reaches	Upper Puerco	AgWS
Bonito Creek, ephemeral reaches	Upper Puerco	AgWS
Black Creek, perennial and intermittent reaches	Upper Puerco	AgWS
Bonito Creek, perennial and intermittent reaches	Upper Puerco	AgWS
Red Lake	Upper Puerco	AgWS
Trout Lake (cold water)	Upper Puerco	AgWS
Puerco River, ephemeral reaches	Upper Puerco & Lower Puerco	AgWS
Gallegos Canyon, ephemeral reaches	Upper San Juan River	AgWS
Gallegos Canyon, perennial and intermittent reaches	Upper San Juan River	AgWS
Zuni River tributaries, ephemeral reaches	Zuni River	AgWS
Coyote Wash, ephemeral reaches	Chaco	ScHC, AgWS
Hunter Wash, ephemeral reaches	Chaco	ScHC, AgWS
Indian Creek, ephemeral reaches	Chaco	ScHC, AgWS
Sheep Springs Wash, ephemeral reaches	Chaco	ScHC, AgWS
Palisade Creek, perennial and intermittent reaches	Chinle	

Table 3 New Waterbodies and their associated designated uses added to Table 206.1

Waterbody	Cataloging unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Captain Tom Reservoir	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW

Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Toadlena Fish Hatchery un-named ephemeral tributaries	Chaco			ScHC	AgWS		A&W	LW
Toadlena Fish Hatchery un-named intermittent and perennial tributaries	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Alcove Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Alcove Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Bubbling Springs Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Bubbling Springs Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Dowozhiebito Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Dowozhiebito Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Long Canyon, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
Long Canyon, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
White Rock Wash, ephemeral reaches	Chinle			ScHC	AgWS		A&W	LW
White Rock Wash, perennial and intermittent reaches	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Black Soil Wash, ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Black Soil Wash, perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Scattered Willow Wash, ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Scattered Willow Wash, perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Willow Creek, ephemeral reaches	Cottonwood Wash			ScHC	AgWS		A&W	LW
Willow Creek, perennial and intermittent reaches	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Big Canyon, ephemeral reaches	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Big Canyon, perennial and intermittent reaches	Lower Colorado-		PrHC	ScHC	AgWS	FC	A&W	LW

Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
	Marble Canyon							
Salt Trail Canyon, ephemeral reaches	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Salt Trail Canyon, perennial and intermittent reaches	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - ephemeral reaches	Lower San Juan River			ScHC	AgWS		A&W	LW
Cha Canyon - intermittent reaches	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - perennial reaches	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Lower San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Piute Canyon, ephemeral reaches	Lower San Juan River			ScHC	AgWS		A&W	LW
Piute Canyon, perennial and intermittent reaches	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Little Colorado River, ephemeral reaches	Middle Little Colorado			ScHC	AgWS		A&W	LW
Little Colorado River, perennial and intermittent reaches	Middle Little Colorado		PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Middle San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Middle San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed)	Upper San Juan River			ScHC	AgWS		A&W	LW

Waterbody	Cataloguing unit	DOM	PrHC	ScHC	AgWS	FC	A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed)	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	Upper San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
West Fork Gallegos Canyon, ephemeral reaches	Upper San Juan River			ScHC	AgWS		A&W	LW
West Fork Gallegos Canyon, perennial and intermittent reaches	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW

EPA finds that these revisions are consistent with 40 C.F.R. § 131.10 and approves these updates.

§ 207. NUMERIC SURFACE WATER QUALITY STANDARDS

D. Salinity

This section is updated to implement the 2015 Colorado River Basin Salinity Control Forum standards. EPA finds this amendment to the more current salinity WQS and plan to be protective of the Colorado River's designated uses, consistent with 40 C.F.R. § 131.10.

I. Mercury and Methylmercury

NNEPA has adopted site-specific chronic criteria of 0.001 ug/L as dissolved component and site-specific methylmercury values of 0.00011 ug/l for the following water bodies: Colorado River and perennial tributaries, Navajo Creek (perennial reaches), Little Colorado River (perennial reaches), Cow Springs Lake, White Mesa Lake, Asaayi Lake, Asaayi Creek (perennial reaches), Asaayi Creek (East Fork, perennial reaches), Red Lake, Trout Lake, Zuni River (perennial tributaries), Bluewater Creek (perennial reaches), San Juan River and perennial tributaries, Cutter Dam Reservoir, Chuska Lake, Morgan Lake, Whiskey Lake, Chinle Creek/Chinle Wash (perennial reaches), Nazlini Wash (perennial reaches), Whiskey Creek (perennial reaches), Wheatfields Lake, Canyon del Muerto Wash (perennial reaches), Tsaile Lake, Tsaile Creek (perennial reaches), Wheatfields Creek (perennial reaches), Aspen Lake, Round Rock Lake and Mancos River (perennial reaches). EPA finds these amendments to be protective of the designated uses for these waterbodies, consistent with 40 C.F.R. § 131.10.

Table 207.1. Numeric Surface Water Quality Standards

I. AQUATIC LIFE

Acute and Chronic Criteria. NNEPA revised or added 10 aquatic life-use related numeric criteria (Table 4) and developed site-specific methylmercury numeric criteria for specific waterbodies. NNEPA standards for endrin, heptachlor and heptachlor epoxide are the same as EPA's published compilation of national recommended water quality criteria; these criteria are published as required by CWA § 304(a) (EPA 304(a) recommendations). The NNEPA standard for total endosulfan is within rounding error of the EPA published criteria. Bolded items in Table 4 below are approved by EPA pursuant to CWA § 303(c) and 40 C.F.R. Part 131.

Table 4 New Navajo Nation Water Quality Standards.

Parameter	Navajo Nation Acute Standard (ug//)	EPA Acute Criteria (ug/l)	Navajo Nation Chronic Standard (ug/l)	EPA Chronic Criteria (ug/l)
Ammonia	*	*	*	*
Alachlor	2500	NA	170	NA
Endosulfan (Total)	0.2	0.022	0.06	0.056
Endrin	0.086	0.086	0.036	0.036
Endrin aldehyde	0.086	NA	0.036	NA
Guthion	NCNS	NA	0.01	NA
Heptachlor	0.52	0.52	0.0038	0.0038
Heptachlor epoxide	0.52	0.52	0.0038	0.038
Hexachlorobenzene	6.0	NA	3.7	NA
Mercury (Hg)	2.4 (D)	1.4	0.012 (D)	0.77

* Ammonia criteria are based on equations in EPA 2013 freshwater ammonia criteria

NNEPA has adopted EPA 304(a) recommendations for ammonia, endosulfan, endrin, guthion (chronic), heptachlor and heptachlor epoxide. NNEPA developed new aquatic life criteria for alachlor, cadmium, endrin aldehyde, hexachlorobenzene, mercury and site-specific standards for methylmercury. The NNEPA criteria for alachlor, endrin aldehyde, guthion, and hexachlorobenzene are protective of aquatic life. EPA finds that NNEPA's adoption of these criteria adds a layer of protection that is beyond the EPA's 304(a) recommendations. EPA notes these criteria are equivalent to criteria EPA previously approved in 2009/2010 in neighboring Arizona.

Ammonia. NNEPA adopted the EPA's recommended 2013 ammonia criteria for its waters that are protective of salmonids and unionid mussels when present. Tables 207.19, 207.20, and 207.21 are consistent with the EPA 304(a) recommendations.

Mercury. NNEPA clarified its previously approved acute and chronic mercury criteria of 2.4 and 0.012 ug/l which are based on the 1984 EPA 304(a) recommendations should be based on dissolved form of mercury. The 1995 304(a) recommendations are lower but are based on inorganic mercury ion. A Wildlife Criteria (WC) value for mercury was estimated, in the 1984 recommendations, as the ratio of the RfD to an estimated mercury consumption rate in fish (only) referenced to water concentration using a bioaccumulation factor (BAF). A BAF is the ratio of the mercury concentration in fish to its concentration in water. The WC for bald eagles was calculated using the following equation and the BAF from methylmercury measured in water to the concentration of total mercury in re-integrated fish tissue (on a dry weight basis):

$$WC_{\text{bald eagle}} = \frac{(TD \times UF \times BW)}{D + (FF \times BAF)}$$

Where:

- WC = Wildlife Criteria for bald eagle (pg/L)
 TD = Tested Dose (mg/kg-bw/day) (i.e., 0.064 mg/kg-bw/day)

UF = Uncertainty Factor (unitless) (*i.e.*, 0.33)
 BW = Body Weight (*i.e.*, 5.25 kg)
 D = Drinking water intake (L/d)
 FF = Fraction of diet that is fish (all other sources assumed to be negligible)
 BAF = Bioaccumulation Factor (total mercury in fish/methylmercury in water)

EPA finds this is consistent with EPA's 304(a) recommendation.

II. HUMAN HEALTH

Fish Consumption criteria. For the fish consumption designated uses, NNEPA revised or added criteria for 65 pollutants. 63 of the 65 are equal to EPA's 2015 human health updates to the 304(a) recommendations. EPA does not have recommended criteria for Total Endosulfan and Glyphosate. As described below, EPA is approving all 65 criteria.

Table 5 Navajo Nations revised Fish Consumption Criteria compared to EPA Human Health Organism only 2015 criteria update

Parameter	CAS Number	NN FC	EPA 2015 updates Organism Only
1,1,1-Trichloroethane	71556	200000	200000
1,1,2,2-Tetrachloroethane	79345	3	3
1,1,2-Trichloroethane	79005	8.90	8.90
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03
1,2,4-Trichlorobenzene	120821	0.076	0.076
1,2-trans-Dichloroethene	156605	4000	4000
1,3-Dichlorobenzene	541731	10	10
1,3-Dichloropropene	542756	12	12
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP)	93721	400	400
2,4,5-Trichlorophenol	95954	600	600
2,4-Dichlorophenol	120832	60	60
2,4-Dichlorophenoxyacetic acid (2,4-D)	94757	12000	12000
2,4-Dimethyl phenol	105679	171	3000
2,4-Dinitrophenol	51285	300	300
2,4-Dinitrotoluene	121142	1.70	1.70
2-Chloronaphthalene	91587	1000	1000
2-methyl-4,6-Dinitrophenol	534521	30	30
3-methyl 4-Chlorophenol	59507	2000	2000
Acenaphthene	83329	90	90
Alpha-Hexachlorocyclohexane (HCH)	319846	0.00039	0.00039
Aldrin	309002	0.00000077	0.00000077
Benzene	71432	16-58	16-58
Benzo(a)anthracene	56553	0.0013	0.0013
Benzo(a)pyrene	50328	0.00013	0.00013

Parameter	CAS Number	NN FC	EPA 2015 updates Organism Only
Benzo(b)fluoranthene	205992	0.0013	0.0013
beta-Hexachlorocyclohexane (HCH)	319857	0.014	0.014
Bis(2-chloroisopropyl)ether	108601	3441	4000
Bis(2-ethylhexyl)phthalate	117817	0.37	0.37
Bis(Chloromethyl) ether	542881	0.017	0.017
Bromoform	75252	120	120
Butyl benzyl phthalate	85687	0.10	0.10
Chlordane	57749	0.00032	0.00032
Chlorobenzene	108907	800	800
Dibenzo(a,h)anthracene	53703	0.00013	0.00013
Dibutyl phthalate	84742	30	30
Dieldrin	60571	0.0000012	0.0000012
Diethyl phthalate	84662	600	600
Dimethyl phthalate	131113	2000	2000
Dinitrophenols	25550587	1000	1000
Endosulfan (Total)	115297	20	NA
Endrin	72208	0.03	0.03
Ethylbenzene	100414	130	130
Fluoranthene	206440	20	20
Fluorene	86737	70	70
gamma-Hexachlorocyclohexane (HCH)	58899	4.4	4.4
Glyphosate	1071836	266667	NA
Heptachlor	76448	0.0000059	0.0000059
Heptachlor epoxide	1024573	0.000032	0.000032
Hexachlorobenzene	118741	0.000079	0.000079
Hexachlorobutadiene	87683	0.01	0.01
Hexachlorocyclohexane (HCH)-Technical	608731	0.01	0.01
Hexachlorocyclopentadiene	77474	4.00	4.00
Hexachloroethane	67721	0.10	0.10
Indeno(1,2,3-cd)pyrene	193395	0.0013	0.0013
Methoxychlor	72435	0.02	0.02
Nitrobenzene	98953	600	600
p,p'-DDD (p,p-Dichlorodiphenyldichloroethane)	72548	0.00012	0.00012
p,p'-DDE (p,p-Dichlorodiphenyldichloroethene)	72559	0.000018	0.000018
p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane)	50293	0.00003	0.00003
Pentachlorobenzene	608935	0.10	0.10
Pentachlorophenol	87865	0.04	0.04
Pyrene	129000	30	30
Toluene	108883	520	520
Trichloroethene	79016	7	7
Vinyl Chloride	75014	1.6	1.6

NNEPA also added human health criteria for Total Endosulfan of 20ug/l and Glyphosate of 266,667 ug/l.. The following equation was used to calculate the criteria for Total endosulfan and Glyphosate with the parameters in Table 6 (below):

$$\text{For non-carcinogens. } WQC = \frac{Rfd * RSC * 70 \text{ kg}}{FC * BCF}$$

Table 6 Parameters used to calculate human health criteria for Total Endosulfan and Glyphosate.

Variables	Total Endosulfan	Glyphosate
Reference Dose (RFD)	0.006	0.1
Relative Source Contribution (RSC)	0.2	0.2
Fish Consumption rate (FC) grams/day	17.5	17.5
Bioconcentration Factor (BCF)	270	0.3
Final criteria (ug/l)	17.8	266,667

EPA finds these criteria to be protective. EPA notes the Glyphosate criterion is equivalent to criteria EPA previously approved in 2008 for fish consumption criteria in neighboring Arizona. Likewise, EPA notes the Total Endosulfan criterion is similar to the Arizona criterion, both values round up from the calculated value.

Domestic Water Source use. For Domestic Water Source drinking water NNEPA revised criteria for 77 parameters. 58 of these criteria were updated and 19 are new (Table 7). NNEPA applied values from the “Water + Organism” EPA 304(a) recommendations. Where an EPA criterion was not available, NNEPA adopted values equivalent to or more protective than neighboring Arizona’s EPA-approved criteria.

Table 7 Navajo Nations revised Domestic Water Supply

Parameter	CAS Number	NN DWS
1,1,2-Trichloroethane	79005	0.55
1,2,4,5-Tetrachlorobenzene	95943	0.03
1,2,4-Trichlorobenzene	120821	0.071
1,3-Dichlorobenzene	541731	7
1,3-Dichloropropene	542756	0.27
2,4,5-Trichlorophenol	95954	300
2,4-Dichlorophenol	120832	10
2,4-Dimethyl phenol	105679	100
2,4-Dinitrophenol	51285	10
2,4-Dinitrotoluene	121142	0.049
2,6-Dinitrotoluene	606202	0.05
2-Chloronaphthalene	91587	800
2-Chlorophenol	95578	30
2-methyl-4,6-Dinitrophenol	534521	2
3-methyl 4-Chlorophenol	59507	500
Acenaphthene	83329	70
Acrolein	107028	3

Parameter	CAS Number	NN DWS
Alachlor	15972608	2
Aldrin	309002	0.00000077
alpha-Endosulfan	959988	20
alpha-Hexachlorocyclohexane (HCH)	319846	0.00036
Anthracene	120127	300
Atrazine	1912249	3
Barium (Ba)	7440393	2000
Benzene	71432	0.5-2.1
Benzo(a)anthracene	56553	0.0012
Benzo(a)pyrene	50328	0.00012
Benzo(b)fluoranthene	205992	0.0012
Beta particles and photon emitters		4 milirems/year
beta-Endosulfan	33213659	20
beta-Hexachlorocyclohexane (HCH)	319857	0.008
Bis(2-chloroisopropyl)ether	108601	200
Bis(2-ethylhexyl) adipate	103231	400
Bis(2-ethylhexyl)phthalate	117817	0.32
Bis(Chloromethyl) ether	542881	0.00015
Boron	7440428	1400
Butyl benzyl phthalate	85687	0.1
Chlordane	57749	0.00031
Cyanide	57125	4
Dibenzo(a,h)anthracene	53703	0.00012
Dibutyl phthalate	84742	20
Dieldrin	60571	0.0000012
Diethyl phthalate	84662	600
Dimethyl phthalate	131113	2000
Dinitrophenols	25550587	10
Di-n-octyl phthalate	117840	2800
Dinoseb	88857	7
Diquat	85007	20
Endosulfan (Total)	115297	40
Endosulfan sulfate	1031078	20
Endothall	145733	100
Endrin	72208	0.03
Ethylbenzene	100414	68
Fluoranthene	206440	20
Fluorene	86737	50
gamma-Hexachlorocyclohexane (HCH)	58899	4.2
Glyphosate	1071836	700
Heptachlor	76448	0.0000059
Heptachlor epoxide	1024573	0.000032
Hexachlorobenzene	118741	0.000079

Parameter	CAS Number	NN DWS
Hexachlorobutadiene	87683	0.01
Hexachlorocyclohexane (HCH)-Technical	608731	0.0066
Hexachlorocyclopentadiene	77474	4
Hexachloroethane	67721	0.1
Indeno(1,2,3-cd)pyrene	193395	0.0012
Isophorone	78591	34
Manganese	7439965	980
Methoxychlor	72435	0.02
Nitrobenzene	98953	10
p,p'-DDD (p,p-Dichlorodiphenyldichloroethane)	72548	0.00012
p,p'-DDE (p,p-Dichlorodiphenyldichloroethene)	72559	0.000018
p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane)	50293	0.00003
Pentachlorobenzene	608935	0.1
Pentachlorophenol	87865	0.030
Pyrene	129000	20
Toluene	108883	57
Trichloroethene	79016	0.6

*noted as total free cyanide in AZ WQS

Primary Human Contact use. NNEPA revised the human health criteria for 22 parameters, 11 of which are for new parameters (Table 8). EPA does not have 304(a) recommended criteria for the parameters in Table 8. EPA notes that with the exception of bis(2-ethylhexyl)phthalate, all of the revised primary contact criteria are equivalent to, or more protective than, EPA approved standards in neighboring Arizona. EPA finds that these new NNEPA are protective of primary human contact use. EPA is approving all of the revised primary contact criteria in Table 8 with the exception of bis(2-ethylhexyl)phthalate. EPA is not approving the bis(2-ethylhexyl)phthalate criteria; see “EPA Disapproval of WQS” below.

Table 8 Navajo Nations revised Primary Human Contact criteria

Parameter	CAS Number	NN Primary Human Contact
2,6-Dinitrotoluene	606202	2
2-methyl-4,6-Dinitrophenol	534521	3733
Alachlor	15972608	9333
Antimony	7440360	747
Atrazine	1912249	32667
Benzo(a)anthracene	56553	0.2
Benzo(a)pyrene	50328	0.2
Benzo(b)fluoranthene	205992	1.9
Benzo(k)fluoranthene	207089	1.9
Bis(2-chloroisopropyl)ether	108601	37333
Bis(2-ethylhexyl) adipate	103231	560000
Di-n-octyl phthalate	117840	373333
Dinoseb	88857	933

Parameter	CAS Number	NN Primary Human Contact
Diquat	85007	2053
Endosulfan (Total)	115297	5600
Endothall	145733	18667
Fluoride	16984488	140000
Glyphosate	1071836	93333
Hexachlorobenzene	118741	1
Manganese	7439965	18667
Polychlorinated biphenyls (PCBs)	1336363	19

Secondary Human Contact criteria. NNEPA revised the secondary human contact criteria for 26 parameters, of which 16 are new to NNEPA (Table 9). EPA notes that all, except the criteria for manganese, are the same values as the Arizona WQS that EPA approved as being protective of partial body contact.

EPA finds that the NNEPA criteria are protective of the secondary human contact use and are approved

Table 9 Navajo Nations revised Secondary Human Contact criteria

Parameter	CAS Number	NNEPA Secondary Human Contact
2,6-Dinitrotoluene	606202	3733
2-methyl-4,6-Dinitrophenol	534521	3733
Alachlor	15972608	9333
Antimony (Sb)	7440360	747
Atrazine	1912249	32667
Benzene	71432	3733
Benzo(a)anthracene	56553	0.2
Benzo(a)pyrene	50328	0.2
Benzo(b)fluoranthene	205992	1.9
Benzo(k)fluoranthene	207089	1.9
Bis(2-chloroisopropyl)ether	108601	37333
Bis(2-ethylhexyl) adipate	103231	560000
Di-n-octyl phthalate	117840	373333
Dinoseb	88857	933
Diquat	85007	2053
Endosulfan (Total)	115297	5600
Endothall	145733	18667
Fluoride	16984488	140000
Glyphosate	1071836	93333
Manganese	7439965	18667

Agricultural Uses' criteria. NNEPA revised fifteen agriculture-related designated use criteria (Table 10) for Agricultural Water Supply (AgWS) and Livestock Watering. In general, the criteria are equivalent to

the EPA Blue Book (EPA 1972). EPA finds that these NNEPA criteria are protective of agricultural uses.

Table 10 Navajo Nations revised agriculture related criteria

Parameter	NN EPA AgWS	NN EPA LW
1,1,1-Trichloroethane	1000	
Aluminum		removed
Benzidine	0.01	0.01
Boron	2000	5000 (total)
Chlorine (total residual)		removed
Cobalt	5000 (total)	1000 (total)
Copper	5000 (total)	500 (total)
Cyanide (as free Cyanide)		200
Dieldrin	0.03	0.03
Endrin	0.004	0.004
Gross Alpha particles (pCi/L)		removed
Manganese	10000	
Mercury		10
Molybdenum	50 (total)	
Nickel	2000	
Nitrate-Nitrite (mg/L)		100
PCBs	0.001	0.001
Toxaphene	0.005	0.005
Vanadium	1000 (total)	100 (total)

*Recommended maximum concentration over a 20-year time period for neutral and alkaline fine textured soils.

§ 208 SAMPLE COLLECTION AND ANALYSIS

A. NNEPA updated information regarding the applicable Quality Assurance Plan. EPA finds this revision to be editorial and a non-substantive change.

C. NNEPA added a section regarding implementation of WQS regarding Method Reporting Limits. EPA finds this new item to be a non-substantive change.

EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA's acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>).

§ 209 EXCEPTIONAL WATERS OF NAVAJO NATION

NNEPA has added the following language to identify the process to establish exceptional waters of the Navajo Nation.

A. The Director may classify a surface water as an Exceptional Water of the Navajo Nation (EWNN) by rule.

B. The Director may adopt, under NNSWQS Section 212, a site-specific standard to maintain and protect existing water quality in an EWNN.

C. Any person may nominate a surface water for classification as an EWNN by filing a nomination with the Director. The nomination shall include:

- 1. A map and a description of the surface water;*
- 2. A written statement in support of the nomination, including specific reference to the applicable criteria for an EWNN classification prescribed in Subsection (D);*
- 3. Supporting evidence demonstrating that the criteria in subsection (D) are met; and*
- 4. Available water quality data relevant to establishing the baseline water quality for the proposed EWNN*

D. The Director may classify a surface water as an EWNN based upon the following criteria:

- 1. The surface water is a perennial or intermittent water;*
- 2. The surface water is in a free-flowing condition. For the purposes of this subsection, “in a free-flowing condition” means that a surface waters does not have an impoundments, diversion, channelization, rip-rapping or other bank armor, or another hydrological modification within the reach nominated for an EWNN classification;*
- 3. The surface water has good water quality. For purposes of this subsection, “good water quality” means that the surface water has water quality that meets of is better than applicable surface water quality standards. A surface water that is listed as impaired is ineligible for EWNN classification; and*
- 4. The surface water meets one or both of the following conditions:*
 - a. The surface water is of exceptional cultural, ecological, and/or recreational significance because of its unique attributes, such as the geology, flora and fauna, water quality, aesthetic value, cultural resource value, and/or the wilderness characteristic of the surface water;*
 - b. An endangered or threatened species is associated with the surface water and the existing water quality is essential to the species’ maintenance and propagation and/or the surface water provides critical habitat for the threatened or endangered species. An endangered or threatened species is identified by the Navajo Nation Fish and Wildlife Service.*

E. The Director shall hold at least one public meeting in the local area of a surface water that is nominated for classification as an EWNN to solicit public comment on the nomination.

F. The Director shall consider the following factors when deciding whether to classify a surface water as an EWNN;

- 1. Whether there is the ability to manage the surface water and its watershed to maintain and protect existing water quality;*
- 2. The social and economic impact of Tier 3 antidegradation protection;*
- 3. The public comments in support of, or in opposition to, an EWNN classification,*

4. *The timing of the nomination relative to the triennial review of surface water quality standards;*
5. *The consistency of an EWNN classification with applicable water quality management plans; and*
6. *Whether the nominated surface water is located within a Navajo Nation park, National Monument, wilderness area, conservation area, area of critical environmental concern, or within another area with special use designation.*

EPA finds that the process outlined above is part of NNEPA's antidegradation implementation methods. Per C.F.R. § 131.12, EPA does not approve antidegradation implementation methods such as those described in § 202. Rather pursuant to 40 C.F.R. § 131.12(b), EPA must ensure that the state or tribes antidegradation policy is consistent with the requirements outlined in 40 C.F.R. § 131.12. EPA finds that these changes are consistent with 40 C.F.R. § 131.12 (a)(3).

§ 210 VARIANCE

NNEPA provided non-substantive edits replacing the term "*Unique Water*" in Section I with "*Exceptional Water of the Navajo Nation.*" EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA's acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>).

§ 211 WASTEWATER MIXING ZONES

NNEPA has made edits to the mixing zone policy replacing the term "aquatic habitat" with "aquatic and wildlife" to describe the numeric standards for which mixing zones are allowable. EPA acknowledges these non-substantive changes to previously approved WQS in order to ensure public transparency as to which provisions are applicable for purposes of the CWA in accordance with 40 C.F.R § 131.21(c). EPA's acknowledgement of the non-substantive changes does not constitute an action on the underlying previously approved WQS because they are not new or revised. See: What is a new or revised WQS FAQ (<https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>)

§ 212 SITE-SPECIFIC STANDARDS

NNEPA added this section which describes the five procedures by which NNEPA will develop site-specific standards.

1. The Recalculation Procedure,
2. Water-Effects Ratio Procedure,
3. Resident Species Procedure,
4. Streamlined Water Effects Ratio Procedure for Discharges of Copper, and
5. Natural Background Determination Procedures

The recalculation procedure, the resident species procedure and the water-effects ratio are identical to the procedures outlined the EPA Water Quality Standards Handbook. Guidance for the water effects ratio is provided in in “Streamlined Water-Effect Ratio Procedure for Discharges of Copper,” U.S. Environmental Protection Agency, Office of Water, (EPA-822-R-01-005) (March 2001).

The natural background determination procedures outlined by NNEPA are consistent with EPA policy first established by the Davies memo (Nov 5, 1997) which indicates that “States and Tribes may establish site specific numeric aquatic life water quality criteria by setting the criteria value equal to *natural* background.” The Davies memo also establishes the following criteria for setting site specific standards based on natural background:

“In setting criteria equal to natural background, the State or Tribe should, at a minimum, include in their water quality standards:

- (1) a definition of natural background consistent with the above;*
- (2) a provision that site-specific criteria may be set equal to natural background;*
- (3) a procedure for determining natural background, or alternatively, a reference in their WQS to another document describing the binding procedure that will be used.”*

EPA finds that NNEPA’s procedures for establishing site-specific criteria are consistent with EPA’s policies and guidance. EPA notes that the 304(a) recommendation for copper is the biotic ligand model (BLM) and has provided guidance the copper BLM will be used to establish the protectiveness of any proposed site-criteria copper criteria established using the water-effects ratio.

§ 213 NATURAL BACKGROUND

NNEPA added the following section:

“Where the concentration of a pollutant exceeds a water quality standard and the exceedance is not anthropogenic but is due to natural background conditions, the exceedance shall not be considered a violation of the water quality standard.”

EPA notes that this section follows the site-specific standards section, that section applies natural background conditions only to aquatic uses. In this context EPA finds NNEPA’s definition of Natural Background is consistent with the 1997 Davies memo and EPA guidance.

EPA Disapproval of WQS

§ 207. NUMERIC SURFACE WATER QUALITY STANDARDS

Table 207.1. Numeric Surface Water Quality Standards

bis(2-ethylhexyl)phthalate: NNEPA proposed amending the primary contact criteria for bis(2-ethylhexyl)phthalate from 330 µg/L to 1200 µg/L. NNEPA did not provide a rationale to demonstrate the protectiveness of this change. EPA notes that the proposed criteria change is similar to criteria EPA

disapproved for the neighboring Arizona with which Navajo Nation shares waters and that this value is 12 times higher than the approved Arizona WQS criteria.

EPA finds that the proposed changes to bis(2-ethylhexyl)phthalate are not protective of NNEPA's designated use. EPA finds the amendment to the primary human contact standard is not consistent with 40 C.F.R. Part 131 and disapproves these provisions pursuant to Section 303(c) of the Act. Pursuant to 40 C.F.R. § 131.21(e), Navajo Nation's previous criterion of 330 µg/L remains the applicable water quality standard for CWA purposes.

Tables 207.1, 207.2, 207.3, 207.4, 207.5

Cadmium: NNEPA began revising its 2009 acute and chronic cadmium aquatic and wildlife criteria in 2015 following the 2001 EPA 304 (a) criteria recommendation. Subsequently, in 2016 EPA published an updated cadmium 304 (a) recommendation for acute and chronic aquatic life uses.

Cadmium's impacts to aquatic life are moderated by the hardness of the water column. NNEPA rightly addresses this and other hardness mediated parameters by using an equation, translated into tables, to identify the criteria values. The progression of the criteria and their translation at example hardnesses, is reflected in the comparisons made below in Tables 11 and 12.

NNEPA's 2018 adopted "2015" water quality standard updates proposed amending the intercept of the 2001 EPA recommended equation from 3.294 to -2.561, which increases the acute cadmium criteria 3.1 times, across the range of hardness values. This approach is not in accordance with the more recent EPA updated cadmium criteria from 2016. The proposed NNEPA acute criteria is 6.6 to 9.0 times greater than the 2016 EPA 304(a) recommended acute criteria; see Table 11 below.

In 2009, EPA approved the NNEPA's acute aquatic and wildlife cadmium standard, as it was equal to EPA's then current 2001 304(a) criteria recommendation. The NNEPA 2009 approved acute cadmium aquatic and wildlife criterion:

$$[e (1.0166 [\ln (\text{hardness})] - 3.924)][1.136672 - [\ln (\text{hardness})](0.041838)]$$

In the 2015 WQS provisions transmitted to EPA, NNEPA created a different cadmium aquatic and wildlife warm-water standard while transferring the above equation to a cold-water criteria. NNEPA proposed 2015 cadmium aquatic and wildlife warm-water acute criteria:

$$\text{Warm water: } [e (1.0166 [\ln (\text{hardness})] - 2.561)][1.136672 - [\ln (\text{hardness})](0.041838)]$$

$$\text{Cold water: } [e (1.0166 [\ln (\text{hardness})] - 3.924)][1.136672 - [\ln (\text{hardness})](0.041838)]$$

Table 11 Evaluation of NNEPA acute criteria standard relative to EPA criteria.

Hardness	EPA Acute 2001	EPA Approved NNEPA Acute 2009	Proposed NNEPA Acute 2015	EPA Acute 2016	Multiplier relative to EPA Acute 2001	Multiplier relative to EPA Acute 2016
50	1.0	2.0	6.2	0.94	3.1	6.6
100	2.0	4.3	13.1	1.79	3.1	7.3
200	3.9	9.0	27.8	3.43	3.1	8.1

300	5.9	14.0	43.2	5.00	3.1	8.6
400	7.7	19.1	58.9	6.54	3.1	9.0

As detailed above, the revised cadmium values are 3.1 times higher than the 2001 EPA 304(a) recommended criteria the acute criteria and 6.6 to 9.0 times higher for the 2016 304(a) recommended criteria

In 2009, EPA approved the NNEPA chronic cadmium criteria because it was more protective than the EPA 304(a) recommendation. The NNEPA 2009 approved chronic cadmium aquatic and wildlife criterion:

$$[e^{(0.7409 [\ln (\text{hardness})] - 4.719)}][1.101672 - [\ln (\text{hardness})](0.041838)]$$

In the 2015 WQS provisions transmitted to EPA, NNEPA has proposed a new warm water chronic cadmium aquatic and wildlife criteria while transferring the above equation to a cold water criteria. NNEPA proposed 2015 warm water chronic cadmium aquatic and wildlife criteria:

Warm water: $[e^{(0.7409 [\ln (\text{hardness})] - 3.894)}][1.101672 - [\ln (\text{hardness})](0.041838)]$

Cold Water: $[e^{(0.7409 [\ln (\text{hardness})] - 4.719)}][1.101672 - [\ln (\text{hardness})](0.041838)]$

The change in the intercept of the chronic criteria creates values that are 1.2 times greater than the 2001 EPA 304(a) recommended criteria and 3.6 times greater the EPA 304(a) recommended criteria 2016 across the range of hardness values. Table 12 below describes the impact of the changes across hardness values.

Table 12 Evaluation of NNEPA chronic cadmium criteria standard relative to EPA criteria.

Hardness	EPA Chronic 2001	NNEPA Chronic 2009	NNEPA Chronic 2015	EPA Chronic 2016	Multiplier relative to EPA Chronic 2001	Multiplier relative to EPA Chronic 2016
50	1.3	0.2	1.6	0.4	1.2	3.7
100	2.2	0.3	2.6	0.7	1.2	3.6
200	3.7	0.5	4.4	1.2	1.2	3.6
300	5.0	0.7	5.9	1.6	1.2	3.6
400	6.2	0.8	7.3	2.0	1.2	3.6

The EPA finds that the proposed changes to cadmium are not consistent with EPA's 304(a) criteria recommendations and are not protective of NNEPA's designated uses. EPA finds the amendments to the acute and chronic aquatic and wildlife warm water standards are not consistent with 40 C.F.R. Part 131 and disapproves these provisions pursuant to Section 303(c) of the Act. Pursuant to 40 C.F.R. § 131.21(e), Navajo Nation's 2009 previous criteria remain the applicable water quality standard for CWA purposes.

EPA Request for Additional Information

Section E. Suspended Solids: NNEPA amended the previously EPA-approved suspended solids criteria with the following:

“The suspended solids standards in this section only apply to lotic (flowing) surface waters.”

The proposed change would remove the criteria from a variety of lakes, reservoirs, and other similar waterbodies. NNEPA’s intent for this proposed change was to address challenges collecting valid samples from very shallow waters (Email from Eric Rich, NNEPA on February 25, 2020). These technical difficulties are not related to whether the criteria are necessary to protect the use.

EPA finds the amendments to the aquatic and wildlife warm and cold water standards for non-lotic surface waters are not consistent with 40 C.F.R. Part 131. Due to these concerns, EPA is offering NNEPA the opportunity to submit additional information that provides a scientific basis for this removal or establishes how, in the absence of the criteria, NN WQS can nevertheless protect the designated uses from impacts from suspended solids. EPA would appreciate for this information to be shared in 30 days or less by NNEPA.

EPA is not acting on this change at this time, pursuant to Section 303(c) of the Act. Pursuant to 40 C.F.R. § 131.21(e), Navajo Nation’s previous criteria, noted below, remain the applicable water quality standard for CWA purposes.

“The following water quality standards for suspended solids concentration, are expressed as a median value determined from a minimum of four samples collected at least 7 days apart. A suspended solids sample collected during or within 48 hours of a local precipitation event shall not be used to determine the median value.

Aquatic and Wildlife, warm water: 80 mg/L
Aquatic and Wildlife, cold water: 25 mg/L”

Endangered Species Act

EPA’s action on water quality standards is subject to Section 7 of the Endangered Species Act. EPA prepared a Biological Evaluation as a part of its administrative record for this action. US Fish and Wildlife Service concurred with EPA’s finding of “may affect, not likely to adversely affect” protected species under its jurisdiction by letter dated April 20, 2020.

Consultation with Indian Tribes

EPA upholds its trust responsibility to federally recognized tribal governments consistent with the “2011 EPA Policy on Consultation and Coordination with Indian Tribes” (<https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes>). Fundamental to this policy is to have meaningful communication and coordination with appropriate tribal leadership on a government-to-government basis prior to EPA taking actions or making decisions that may affect tribal interests.

On April 4, 2019 EPA provided a letter offering consultation to area tribes whose interests may be affected by this action. No tribes requested to pursue consultation.

Triennial Review Requirements & CWA §304(a) Recommendation

40 C.F.R. § 131.20(a) stipulates that:

The State shall from time to time, but at least once every 3 years, hold public hearings for the purpose of reviewing applicable water quality standards... if a State does not adopt new or revised criteria for parameters for which EPA has published new or updated CWA section 304(a) criteria recommendations, then the State shall provide an explanation when it submits the results of its triennial review...

Navajo Nation provided evidence of public hearings to EPA on February 11, 2019. Navajo Nation provided a review of the applicable WQS November 13, 2019. EPA is providing the following comments for Navajo Nation consideration:

EPA Published Recommendations:

Fish Consumption Use

EPA notes that NNEPA did not develop a fish consumption criterion for manganese. EPA recommends that NNEPA either adopt a fish consumption criterion or provide a written rationale in their next public Triennial Review documents and transmission to EPA. NNEPA's rationale should identify whether a manganese criterion is not needed, should be different, or is pending.

Domestic Water Supply

EPA notes that the domestic water supply criterion for manganese is higher than the recommended value. EPA recommends consider revising the in their next triennial review.

Aquatic & Wildlife

EPA notes that NNEPA did not develop aquatic and wildlife acute and chronic criteria for manganese. EPA recommends that NNEPA either adopt aquatic and wildlife criteria or provide a written rationale in their next public Triennial Review documents and transmission to EPA. NNEPA's rationale should identify whether manganese criteria are not needed, should be different, or are pending.

EPA recommends NNEPA consider adding the biotic ligand model (BLM) to the aquatic and wildlife copper criteria and to the sections describing site specific standard recalculation procedures in their next triennial review.

Future Possible Technical Support:

Primary Human Contact & Secondary Human Contact Uses

The manganese criteria are higher than the EPA blue book recommendation. EPA is approving the manganese criteria as it is protective of the use, but EPA recommends that NNEPA consider revising in their next triennial review.

Agriculture-Related Uses

EPA recommends that NNEPA consider agriculture-related designated uses criteria for aluminum and gross alpha particles in their next triennial review.

Conclusion

Based on EPA's review, the new and revised WQS are partially consistent with the requirements of the CWA and 40 C.F.R. Part 131. Therefore, the revisions are partially approved and partially disapproved by EPA pursuant to Section 303(c) of the Act.

References

EPA Blue Book. NAS/NAE. 1973. Water Quality Criteria 1972 (the "Blue Book"), a Report of the Committee on Water Quality Criteria. National Academy of Science and National Academy of Engineering, Washington, DC. NTIS-PB 236199. USGPO #5501-00520.

Arizona WQS. Chapter 11. Department of Environmental Quality - Water Quality Standards
<https://www.epa.gov/sites/production/files/2014-12/documents/az-chapter11.pdf> last accessed: April 20, 2020.

EPA 304(a) recommendations. National Recommended Water Quality Criteria
<https://www.epa.gov/wqc/national-recommended-water-quality-criteria> last accessed: April 20, 2020.

1984 EPA recommendations. Ambient Water Quality Criteria for Mercury -1984. EPA 440/5-84-026, January 1985.

1994 EPA recommendations. 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water.

Davies memo. 1997. Establishing Site Specific Aquatic Life Criteria Equal to Natural Background.
<https://www.epa.gov/sites/production/files/2014-08/documents/naturalbackground-memo.pdf> last accessed: May 26, 2020.